

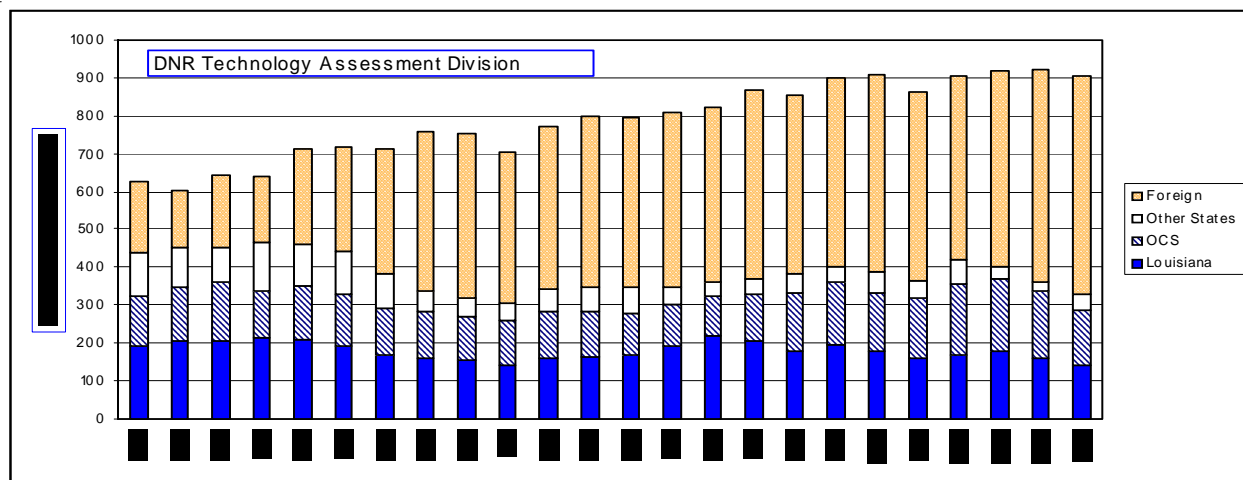
HIGHLIGHTS OF THE 14th EDITION OF THE LOUISIANA CRUDE OIL REFINERY SURVEY REPORT

by
J. Bryan Crouch, P. E.

The 14th edition of DNR's Louisiana Crude Oil Refinery Survey Report covers the 12-month period from July 1, 2004 to June 30, 2005. The survey results show that operating capacity for Louisiana refineries is up by almost 180,000 bcd (barrels per calendar day), led by large gains at Citgo Petroleum's Lake Charles refinery and Valero Refining's Norco refinery. Table 1 shows the current operating capacities and throughputs and the percent changes from the last DNR survey for individual refineries. Table 2 shows the top products, by percentage of total product slate, from all Louisiana refineries. The overall operating rate for Louisiana refineries during this survey period was 93.3%

Crude oil inputs were slightly down in 2005 due to refinery shutdowns resulting from Hurricanes Katrina and Rita. Total crude oil input to Louisiana refineries for the 2005 calendar year was 902 million barrels. Of that total, 63.4% was from foreign sources, 16.2% from the Outer Continental Shelf waters, 15.9% from Louisiana, and 4.5% from other states (see figure below).

Crude Oil Sources for Louisiana Refineries



Source: DNR Database, from Refiner's Monthly Report, Form R-3

The *Louisiana Crude Oil Refinery Survey Report, 14th Edition: 2005 Survey* was recently published online in PDF format on the Department of Natural Resources Technology Assessment Division website (http://dnr.louisiana.gov/sec/execdiv/techasmt/oil_gas/refineries/refinsurvey_2005.pdf). If you are currently on our mailing list as a subscriber to this publication, a hard copy will be mailed to you automatically. If you would like your name added to our subscriber mailing list to receive a free copy of the current, as well as future, edition(s) of the *Refinery Survey*, submit an email request to techasmt@la.gov (include your name and address, and specify which publication you are requesting), or contact Jan Janney at 225-342-1270.

Table 1. Louisiana Refinery Current and Previous Operating Capacities

Refinery Name	Location	Current Operating Capacity ¹ (bcd)	Capacity Change ² (%)	Throughput ¹ 7/1/04 - 6/30/05 (barrels)	Throughput Change ² (%)
Calcasieu Refining Company	Lake Charles	31,000	0.00	10,959,254	-1.38
Calumet Lubricants Company LP	Cotton Valley	12,158	-10.71	2,940,587	-14.10
Calumet Lubricants Company LP	Princeton	8,505	3.67	3,061,800	4,708.48
Calumet Shreveport LLC	Shreveport	40,000	391.76	2,969,018	0.00
Chalmette Refining LLC	Chalmette	195,000	2.52	65,188,426	8.81
Citgo Petroleum Corporation	Lake Charles	438,000	24.43	139,431,481	22.37
ConocoPhillips	Belle Chasse	247,000	-5.00	86,647,396	-6.43
ConocoPhillips	West Lake	239,000	-4.40	82,270,405	-0.67
ExxonMobil Refining & Supply Company	Baton Rouge	493,500	0.10	179,397,500	-0.51
Marathon Petroleum Company LLC	Garyville	255,000	0.00	95,241,074	9.91
Motiva Enterprises LLC	Convent	225,000	0.00	82,125,000	0.00
Motiva Enterprises LLC	Norco	240,000	0.00	76,458,154	2.08
Murphy Oil USA Inc ³	Meraux	120,000	14.29	n/a	n/a
Placid Refining Company	Port Allen	49,500	0.00	18,013,377	7.82
Shell Chemical Company	St. Rose	54,000	0.00	15,808,333	-5.32
Valero Refining Company	Krotz Springs	80,000	2.56	28,907,333	15.66
Valero Refining Company	Norco	185,000	52.37	61,478,687	311.67
Totals ³		2,912,663	6.53	950,897,825	4.65

1. Data from current 12-month DNR survey ending June 30, 2005.

2. Percent change from previous 12-month DNR survey ending Oct. 31, 2003 (published in June, 2004).

3. Murphy was not able to respond to current survey due to outage resulting from Hurricane Katrina.

Current operating capacity figure from EIA. Throughput change totals do not include Murphy.

Table 2. Top Products from LA Refineries by % of Product Slate

Product	Percent of Total Product Slate
Regular gasoline	30.7
Diesel	18.2
Jet fuel/Kerosene	11
Fuel oil	6.2
Residual/Coke	5.7
Premium gasoline	4.8

SELECTED LOUISIANA ENERGY STATISTICS

Among the 50 states, Louisiana's rankings in 2005 (unless otherwise indicated) were:

PRIMARY ENERGY PRODUCTION

(Including Louisiana OCS)

- 1st in crude oil
- 1st in OCS crude oil
- 1st in OCS natural gas
- 1st in OCS revenue generated for federal government
- 1st in mineral revenues from any source to the federal government
- 1st in LNG terminal capacity
- 1st in foreign oil import volume
- 2nd in natural gas
- 2nd in total energy from all sources
- 2nd in dry natural gas proved reserves
- 2nd in crude oil proved reserves

REFINING AND PETROCHEMICALS

- 1st in natural gas processing capacity
- 2nd in petroleum refining capacity
- 2nd in primary petrochemical production

PRIMARY ENERGY PRODUCTION

(Excluding Louisiana OCS)

- 4th in crude oil
- 6th in natural gas
- 6th in dry natural gas proved reserves
- 7th in crude oil proved reserves
- 8th in total energy

ENERGY CONSUMPTION (2004)

- 3rd in industrial energy
- 3rd in per capita energy
- 3rd in natural gas
- 5th in petroleum
- 8th in total energy
- 22nd in residential energy

Production

State controlled (i.e., excluding OCS) natural gas production peaked at 5.6 trillion cubic feet (TCF) per year in 1970, declined to 1.5 TCF in 1995, and rebounded 4.5% to 1.6 TCF in 1996. Gas production was approximately 1.36 TCF in 2002, around 1.35 TCF in 2003 and 2004 and 1.28 TCF in 2005.

State controlled gas production is on a long term decline rate of 3.4% per year, though the current short term (2006-2011) forecast decline is around 3.5% per year.

State controlled crude oil and condensate production peaked at 566 million barrels per year in 1970, declined to 127 million barrels in 1994, recovered to 129 million barrels in 1996, and declined to 76.1 million barrels in 2005.

State controlled crude oil production is on a long term decline rate of 4.2% per year, though the current short term (2006-2011) forecast decline is around 3.6% per year. If oil stays above \$50.00 per barrel, the decline will remain as predicted. If the price drops below \$45.00 per barrel, the decline rate may be higher.

Louisiana OCS* (federal) territory is the most extensively developed and matured OCS territory in the US.

Louisiana OCS territory has produced 85.4% of the 15.9 billion barrels of crude oil and condensate and 81.1% of the 162 TCF of natural gas extracted from all federal OCS territories from the beginning of time

through the end of 2005. Currently, Louisiana OCS territory produces 85.4% of the oil and 69.5% of the natural gas produced in the entire U.S. OCS and 89% of the oil and 70% of the natural gas produced in the Gulf of Mexico OCS.

Louisiana OCS gas production peaked at 4.16 TCF per year in 1979, declined to 3.01 TCF in 1989, then recovered to 3.98 TCF in 1999 and fell to 3.30 TCF in 2003. The estimated production for 2004 was 2.84 TCF.

Louisiana OCS crude oil and condensate production first peaked at 388 million barrels per year in 1972 and declined to 246 million barrels in 1989. In this decade, the production has steadily risen from 264 million barrels in 1990 to 508 million barrels in 2002 due to the development of deep water drilling. In 2003, 505 million barrels were produced. The estimated production for 2004 was 477 million barrels.

Revenue

At the peak of Fiscal Year (FY) 1981/82, oil and gas revenues from severance, royalties, and bonuses amounted to \$1.6 billion, or 41% of total state taxes, licenses and fees. For FY 2005/06, these revenues are estimated to be in the vicinity of \$1.188 billion, or about 12.9% of total estimated taxes, licenses, and fees.

At constant production, the State Treasury gains or loses about \$7 million of direct revenue from oil severance taxes and royalty payments for every \$1 per barrel change in oil prices.

For every \$1 per MCF change in gas prices, at constant production, the State Treasury gains or loses \$34 million in royalty payments, and increases or decreases gas full rate severance tax by 3.8 cents per MCF or about \$38.22 million dollars for the following fiscal year. (There is a 7 cent floor on gas severance tax.)

There are no studies available on indirect revenue to state from changes on gas and oil prices.

Drilling Activity

Drilling permits issued on state controlled territory peaked at 7,631 permits in 1984 and declined to a low of 1,017 permits in 1999. In 2003 drilling permits issued fell to 1,264 permits, rebounded to 1,633 permits in 2004, and increased to 1,996 permits in 2005.

The average active rotary rig count for Louisiana, excluding OCS, reached a high of 386 rigs in 1981 and fell to 76 active rigs in 2002. In 2003 the average remained at 76 active rigs, in 2004 the average swung back to 91 active rigs, and in 2005 the average rose to 108 active rigs. The lowest year average between 1981 and 2005 was 64 active rigs in 1993.

The 2005 average active rotary rig count for Louisiana OCS was 74 active rigs, 2 rigs, or 3.7% lower than 2004 average, and the highest active rotary rig count was 109 rigs recorded in 2001.

*Note: Louisiana OCS or Outer Continental Shelf is federal offshore territory adjacent to Louisiana's coast beyond the three mile limit of the state's offshore boundary.

TCF= trillion cubic feet